

**Discovery of the tropical psyllid, *Thysanogyna minor* from Japan,
with description of a new subspecies
(Hemiptera : Psyllidae)***

Yorio MIYATAKE

Osaka Museum of Natural History

熱帯からのみ知られるアオギリオオキジラミ (新称) の日本よりの記録

宮 武 頼 夫

大阪市立自然史博物館

アオギリオオキジラミ *Thysanogyna minor* は、ネッタイキジラミ亜科 *Carsidarinae* に属し、従来、フィリピンとタニンバル (チモールラウト) 諸島からのみ知られていた。このほど、本種が四国の宇和島南々西海上の鹿島と高知県の室戸で得られた。原記載と照合した結果、基本的形質は同じであるが、翅脈および交尾器に、若干の、しかも種内変異以上の差異が認められたので、新亜種 *shikokuensis* として記載した。日本本土 (屋久島以北) のキジラミの内では、最も熱帯的な種であると思われる。

Thysanogyna minor (CRAWFORD, 1915) is one of the tropical psyllid and known only from the Philippines (Mt. Maquiling, Los Baños, Laguna Province and Malinao, Tayabas Province in Luzon) and the Tanimbar Islands (Larat) so far (CRAWFORD, 1919).

It should be surprising occurrence that it was newly found from the Pacific coast of Shikoku, S. W. Japan. Comparing with the original description, they have several different characters of forewing and genitalia which seem to be more than infraspecific. The Japanese form, therefore, is described as a new subspecies in the present paper.

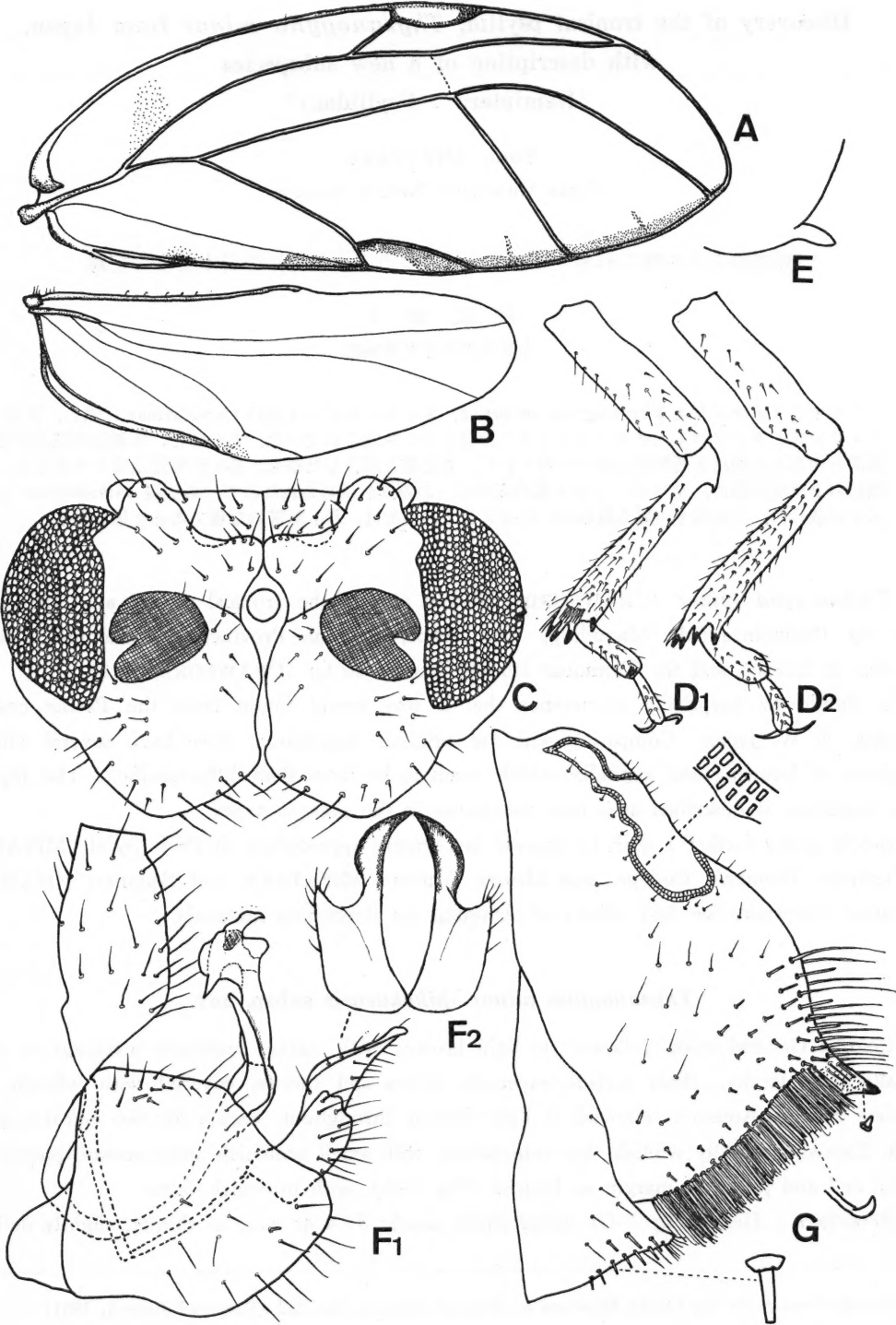
Before going further I wish to express my sincere appreciation to Prof. Syôiti MIYAMOTO of Tsukushi Women's College, and Messrs. Mutsuo MIYATAKE and Sadanari HISAMATSU of Ehime University for their efforts of obtaining the interesting materials.

***Thysanogyna minor shikokuensis* subsp. nov.**

Color : General color yellowish to light brown, with darker brownish markings or stripes dorsally and laterally. Body surface, especially vertex and thorax, covered with whitish waxy powders usually. Antenna yellowish to light brown throughout, except for two apical segments black. Forewing slightly whitish, but transparent, with small brownish areas around pterostigma, cubital cell and posterior margin as figured (Fig. 1-A), with brownish veins.

Structure : Head (Fig. 1-C) rather small, nearly $3/4$ as wide as thorax, slightly deflexed.

* Contributions from the Osaka Museum of Natural History, No. 253 (Received June 6, 1981)



Vertex quadrate, a little longer than half as long as wide, strongly concave, with prominent median suture, with outer anterior corner acute and horn-like, with long and sparse pubescence, posterior margin more or less incised. Genae large, not conical, protruding in front to antennal bases, with small wartlike processes ventrally, pubescent. Frons visible as a small and narrow sclerite between genae and below front ocellus. Antenna long and slender, nearly 2.4 times as long as width of head, hairy, with two short apical setae of nearly same length, relative length of each antennal segment as 3:2:7:6:5:5:5:4:1:1.

Thorax large and wide, well arched, sparsely pubescent; pronotum large, deflexed; mesonotum quite large; metanotum with a pair of short blunt horns or conical projections caudad. Forewing (Fig. 1-A) large and broad, nearly 2.7 times as long as wide, subacute at apex; pterostigma prominent; medial cell remarkably large; cubital cell small; Rs and M connected with an indistinct pseudovein; veins setigerous. Hind wing (Fig. 1-B) large, 2/3 as long as forewing, 2.8 times as long as wide, venation not triozone, Cu₂ obscure. Legs long, hairy; posterior tibia (Fig. 1-D) with a prominent basal spur, with 1 outer (Fig. 1-D₁) and 4 inner (Fig. 1-D₂) apical spurs; meracanthus (Fig. 1-E) short, acute, projected ventro-caudad; proximal segment of posterior tarsi with only one apical spur on outer side. Abdomen (excl. genitalia) short, robust, 3/4 as long as thorax, hairy ventrally.

Male genitalia (Fig. 1-F₁) moderate in size, nearly half as long as the rest of abdomen; proctiger slightly longer than forceps, in lateral view narrow basally, produced cephalad and caudad medially, truncate at apex, with sparse pubescence as figured; forceps in lateral view sinuate, thick and hairy in the basal half, apically tapering to narrow and truncate apex, in caudal view prominently bilobed, laterel lobe produced cephalad with a subacute apex, apical lobes incurved toward acute and touched apices (Fig. 1-F₂); aedeagus long and stout, with a short apical segment, structure of apical part complicated as figured; subgenital plate in lateral view produced ventro-caudad posteriorly, with two large anteriorly directed hooks on the dorsal margin, with sparse pubescence dorsally and posteriorly. Female genitalia (Fig. 1-G) huge, 2/3 as long as the rest of abdomen; dorsal valve distinctly longer than ventral valve, with a large anal pore-ring dorsad, apical portion attenuate with a subacute apex, ventral margin fringed with long and slender setae like a brush as figured; ventral valve very small, in lateral view subtriangular, blunt apically; both dorsal and ventral valves with rather short setae of secta-setae type, apices of which are truncate, in the apical half as figured.

Length of body ♂ 3.2-3.7 mm, ♀ 3.4-3.9 mm; to tip of folded wings ♂ 5.9-6.2 mm, ♀ 6.5-7.0 mm; length of forewing ♂ 5.0-5.4 mm, ♀ 5.6-5.9 mm; width of forewing ♂ 1.8-2.0 mm, ♀ 2.0-2.2 mm; length of hind wing ♂ 3.4-3.6 mm, ♀ 3.8-4.0 mm; width of hind

Fig. 1. *Thysanogyna minor shikokuensis* subsp. nov.

A, Forewing, ♀; B, Hind wing, ♀; C, Head, frontal view, ♀; D, Hind leg, ♀ (D₁, outer side; D₂, inner side); E, Meracanthus, ♀; F, Male genitalia (F₁, lateral view; F₂, Male forceps, caudal view); G, Female genitalia.

wing ♂ 1.2-1.3 mm, ♀ 1.4-1.5 mm; length of antenna ♂ 2.2-2.3 mm, ♀ 2.3-2.4 mm.

Holotype (♂) : Kashima Is., Nishiumi-cho, Ehime Pref., 17. vii. 1967, on *Firmiana simplex*, S. Hisamatsu leg. (deposited in the collection of Osaka Museum of Natural History, Osaka—OMNH·TI-11).

Paratopotypes : 5♂2♀ (2♂ on slides), 17. vii. 1967, on *F. simplex*, S. Hisamatsu leg.; 6♂7♀ (2♂2♀ on slides), 21. vii. 1967, on *Mallotus japonicus*, M. Miyatake leg.; Kashima Is., Nishiumi-cho, Ehime Pref.

Paratypes : 1♂2♀, Muroto, Kôchi Pref., 16-18. vii. 1952, S. Miyamoto leg.

Distribution : Japan (Kashima, Ehime Pref.; Muroto, Kôchi Pref.).

Host plant : "Aogiri" — *Firmiana simplex* W. F. WIGHT (Sterculiaceae).

Several specimens were also obtained on "Akamegashiwa" — *Mallotus japonicus* MUELL.-ARG. of the family Euphorbiaceae in Kashima, but it is still uncertain whether it is also the host plant or not.

This new subspecies is separable from the nominate subspecies in having Rs of forewing which is much longer (three times as long as pterostigma in *shikokuensis* and two times as long as pterostigma in *minor*), a larger cubital cell of forewing which is nearly twice of the latter, forceps of male genitalia which are prominently bilobed with an acute lateral lobe in caudal view, and apex of dorsal valve of female genitalia which is not curved but straight.

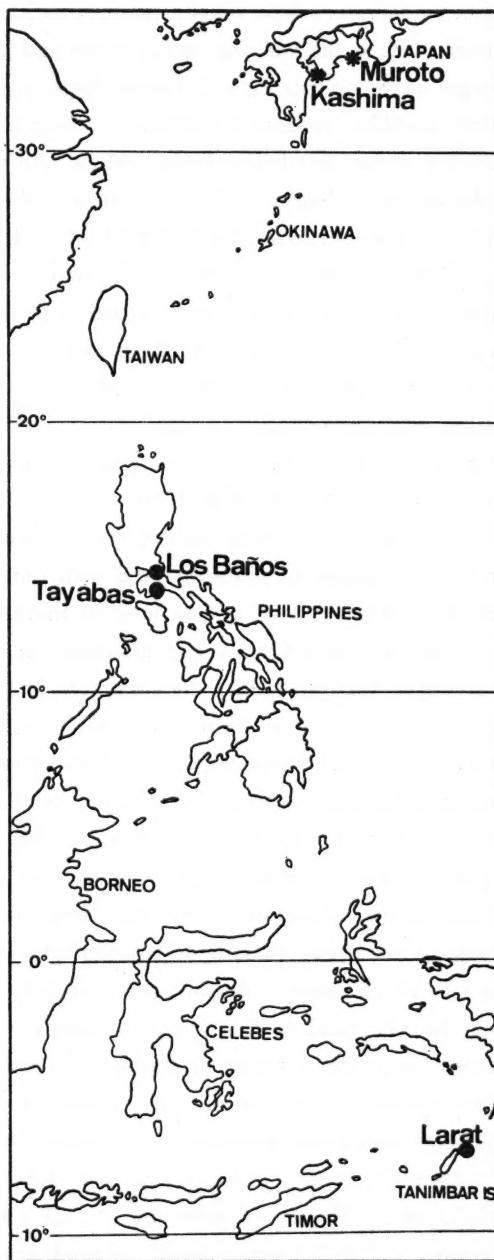


Fig. 2. Distribution of *Thysanogyna minor*.
 ●—*Thysanogyna minor minor* (CRAWFORD, 1915).
 *—*Thysanogyna minor shikokuensis* subsp. nov.

Short discussions

As shown in Fig. 2, the distribution of *Thysanogyna minor* is somewhat longitudinal from south to north on the both sides of the equator. It is unknown from Okinawa and Taiwan, but it is quite possible to find them from areas as well as in other regions of the S. E. Asia. Even in the Japan proper, it will be found at other localities of the southern Shikoku and Kyushu where its host plant, *Firmiana simplex* grows naturally.

The biology or life history of this psyllid is not clarified yet. When dissecting of several females collected in July was tried, numerous matured eggs were observed in their ovaries. From this fact it can be assumed that they deposit eggs around July to August.

Comparing the Japanese material with the Philippine material, it is difficult to tell whether their differences of structures are specific or subspecific, since the Philippine material is not available and they can be only figured basing on the description. According to CRAWFORD (1919) there seem to be several morphological differences suggesting their subspecific diversity even between the Philippine specimens and those from the Tanimbar Islands, although most of basic characters are common. This problem regarding the systematic rank will be discussed in the future after obtaining the further material from various localities.

Literature cited

- CRAWFORD, D. L. 1915. Ceylonese and Philippine Psyllidae (Homoptera). *Phil. J. Sci.* 10(4), D : 263—264.
- 1919. The jumping plant lice of the Palaeotropics and the South Pacific Islands, Family Psyllidae or Chermidae, Homoptera. *Phil. J. Sci.* 15(2), D : 157—159.

Short discussions

As shown in Fig. 2, the distribution of *Thysanogyna minor* is somewhat longitudinal from south to north on the both sides of the equator. It is unknown from Okinawa and Taiwan, but it is quite possible to find them from areas as well as in other regions of the S. E. Asia. Even in the Japan proper, it will be found at other localities of the southern Shikoku and Kyushu where its host plant, *Firmiana simplex* grows naturally.

The biology or life history of this psyllid is not clarified yet. When dissecting of several females collected in July was tried, numerous matured eggs were observed in their ovaries. From this fact it can be assumed that they deposit eggs around July to August.

Comparing the Japanese material with the Philippine material, it is difficult to tell whether their differences of structures are specific or subspecific, since the Philippine material is not available and they can be only figured basing on the description. According to CRAWFORD (1919) there seem to be several morphological differences suggesting their subspecific diversity even between the Philippine specimens and those from the Tanimbar Islands, although most of basic characters are common. This problem regarding the systematic rank will be discussed in the future after obtaining the further material from various localities.

Literature cited

- CRAWFORD, D. L. 1915. Ceylonese and Philippine Psyllidae (Homoptera). *Phil. J. Sci.* 10(4), D : 263—264.
- 1919. The jumping plant lice of the Palaeotropics and the South Pacific Islands, Family Psyllidae or Chermidae, Homoptera. *Phil. J. Sci.* 15(2), D : 157—159.